Louisville Metro Air Pollution Control District
850 Barret Avenue
Louisville, Kentucky 40204-1745

Permit No.: 657-94-C (R1) Plant ID 62

Effective Date: Click here to enter a date. Expiration Date: Click here to enter a date.

E. I. DuPont de Nemours & Co., Inc.
4200 Camp Ground Road
Louisville, KY 40216

is authorized to construct the described process equipment by the Louisville Metro Air Pollution Control District. Authorization is based on information provided with the application submitted by the company and in accordance with applicable regulations and the conditions specified herein.

Process equipment description:

Two (2) Natural Gas 174 MMBtu/hr Babcock and Wilcox Boilers equipped with low NOx burners.

Applicable Regulation(s): 2.03, 2.16, 5.00, 5.01, 5.02 (40 CFR 63 Subpart DDDDD), 5.21, 5.23, 6.42, 7.02 (40 CFR 60 Subpart Db), 7.06

Application No.: NA Application Received: 2/14/1994

Permit Writer: Shannon Hosey

Public Comment Date: 9/25/2014

{manager1}
Air Pollution Control Officer
{date1}

This permit covers only the provisions of Kentucky Revised Statutes Chapter 77 Air Pollution Control, the regulations of the Louisville Metro Air Pollution Control District (District) and, where appropriate, certain federal regulations. The issuance of this permit does not exempt any owner or operator to whom it has been issued from prosecution on account of the emission or issuance of any air contaminant caused or permitted by such owner or operator in violation of any of the provisions of KRS 77 or District regulations. Any permit shall be considered invalid if timely payment of applicable fees is not made after receipt of the statement of fees (SOF). The permit contains general permit conditions and specific permit conditions. General conditions are applicable unless a more stringent requirement is specified elsewhere in the permit.

General Conditions

G1. The owner or operator of the affected facility covered by this permit shall notify the District of any process change, equipment change, material change, or change in method or hours of operation. This requirement is applicable to those changes (except equipment changes) that may have the potential for increasing the emission of air contaminants to a level in excess of the applicable limits or standards specified in this permit or District regulations.

G2. The owner or operator shall obtain new or revised permits from the District when: (See District Regulation 2.16 for Title V sources. See District Regulation 2.17 for FEDOOP sources. See District Regulation 2.03 for other sources.)

a. The company relocates to a different physical address.
b. The ownership of the company is changed.
c. The name of the company as shown on the permit is changed.
d. Permits are nearing expiration or have expired.

G3. The owner or operator shall submit a timely application for changes according to G2. For minor sources only, the District does not require application for permit renewal. The District automatically commences the process of permit renewal for minor sources upon expiration. Timely renewal is not always achievable; therefore, the company is hereby authorized to continue operation in compliance with the latest District permit(s) until the District issues the renewed permit(s).

G4. The owner or operator shall not be authorized to transfer ownership or responsibility of the permit. The District may transfer permits after appropriate notification (Form AP-100A) has been received and review has been made.

G5. The owner or operator shall pay the required permit fees within 45 days after issuance of the SOF by the District, unless other arrangements have been proposed and accepted by the District.

G6. This permit allows operation 8,760 hours per year unless specifically limited elsewhere in this permit.

G7. The owner or operator shall submit emission inventory reports as required by Regulation 1.06.

G8. The owner or operator shall timely report abnormal conditions or operational changes, which may cause excess emissions as required by Regulation 1.07.

G9. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month.

G10. If a change in the “Responsible Official” (RO) occurs during the term of this permit, the owner or operator shall provide written notification (Form 100A) to the District within 30 calendar days of the date the RO change occurs.

Specific Conditions

S1. **Standards** (Regulation 2.03, section 5.1)

a. **$PM/PM_{10}/PM_{2.5}$**

The owner or operator shall not cause to be discharged into the atmosphere from that affected facility particulate matter in excess of 0.10 pounds per million BTU actual total heat input. (Regulation 7.06, section 4.1.4) (See Comment 2)

b. **Opacity**

The owner or operator shall not cause to be discharged into the atmosphere from any affected facility particulate matter emissions which exhibit greater than 20% opacity. (Regulation 7.06, section 4.2)

c. **SO_2**

The owner or operator shall not cause to be discharged into the atmosphere from that affected facility any gases which contain sulfur dioxide in excess of 0.80 pounds per million BTU actual total heat input for combustion of liquid and gaseous fuels. (Regulation 7.06, section 5.1.2) (See Comment 2 and 4)

d. **NOx**

i. The owner or operator shall not cause to be discharged into the atmosphere from that affected facility any gases which contain nitrous oxides in excess of 0.2 pounds per million BTU actual total heat input for combustion of natural gas. (40 CFR 60.44b(a)(1)(ii))

ii. The owner or operator shall comply with the NO_X RACT plan that was adopted by Board Order on November 8, 1999. (See NO_X RACT Plan) (Regulation 6.42, section 4.3) (See Comment 1)

iii. The owner or operator shall not allow or cause the *plant-wide* NO_x emissions to equal or exceed 203.2 tons during any consecutive 12-month period. (See Comment 5)

e. **HAP**

i. The owner or operator must conduct a one-time energy assessment performed by a qualified energy assessor. This assessment must meet the requirements outlined in 40 CFR 63, subpart DDDDD, Table 3, item 3. (40 CFR 63.7500(a)(1))

1) Visual inspection;
2) An evaluation of operating characteristics of the facility;
3) Inventory of major energy-consuming systems;

4) A review of available architectural and engineering plans;
5) A review of the facility's energy management practices;
6) A list of major energy conservation measures;
7) A list of energy savings for the major energy conservation measures identified; and
8) A comprehensive report detailing the ways to improve efficiency.

ii. Work practice standard (for Gas 1 Boilers, i.e., those that have natural gas combustion only): Conduct a tune-up of the boiler annual as specified in 40 CFR 63.7540. See Specific Condition S2.e.ii (40 CFR 63, Subpart DDDDD, Table 3, item 3)

f. **TAC**

The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be de minimis. (Regulations 5.00 and 5.21)

S2. **Monitoring and Record Keeping** (Regulation 2.03, section 5.1)

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **$PM/PM_{10}/PM_{2.5}$**

There are no monitoring and record keeping requirements for this equipment. (See Comment 2)

b. **Opacity**

There are no monitoring and record keeping requirements for this equipment. (See Comment 3)

c. **SO_2**

There are no monitoring and record keeping requirements for this equipment. (See Comment 2 and 4)

d. **NOx**

i. The owner or operator shall install, calibrate, maintain, and operate a continuous emission monitoring systems (CEMS) for measuring the NO_X emissions discharged to the atmosphere and record the output of the system. **(**40 CFR 60.48b)

ii. The owner or operator shall maintain records of the following information for each steam generating unit operating day: **(**40 CFR 60.49b(g))

1) Calendar date.
2) The average hourly nitrogen oxides emission rates (expressed as NO2) (ng/J or lb/million Btu heat input) measured or predicted.
3) The 30-day average nitrogen oxides emission rates (ng/J or lb/million Btu heat input) calculated at the end of each steam generating unit operating day from the measured or predicted hourly nitrogen oxide emission rates for the preceding 30 steam generating unit operating days.
4) Identification of the steam generating unit operating days when the calculated 30-day average nitrogen oxides emission rates are in excess of the nitrogen oxides emissions standards under 40 CFR 60.44b, with the reasons for such excess emissions as well as a description of corrective actions taken.
5) Identification of the times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and description of corrective action taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.
6) Identification of F factor used for calculations, method of determination, and type of fuel combusted.
7) Identification of times when hourly averages have been obtained based on manual sampling methods.
8) Identification of the times when the pollutant concentration exceeded full span of the CEMS.
9) Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specification 2 or 3.
10) Results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1.

iii. The owner or operator shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the boilers or any periods during which a continuous monitoring system is inoperative. (40 CFR 60.7 (b))

e. **HAP**

i. For affected sources subject to the work practice standard, you must conduct an annual performance tune-up according to§63.7540(a)(10) and (a)(11), respectively. Each annual tune-up specified in §63.7540(a)(10) must be no more than 13 months after the previous tune-up. Each biennial tune-up specified in §63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up.(40 CFR 63.7515(e))

ii. If your boiler or process heater has a heat input capacity of 10 million Btu per hour or greater, you must conduct a tune-up of the boiler annually to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (a)(10)(vi). (40 CFR 63.7540(a)(10))

1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shut down, but you must inspect each burner at least once every 36 months).
(40 CFR 63.7540 (a)(10)(i))

2) Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available.
(40 CFR 63.7540 (a)(10)(ii))

3) Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly.(40 CFR 63.7540(a)(10)(iii))

4) Optimize total emissions of carbon monoxide. This optimization should be consistent with the manufacturer's specifications, if available. (40 CFR 63.7540(a)(10)(iv))

5) Measure the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made).
(40 CFR 63.7540(a)(10)(v))

6) Maintain onsite and submit, if requested by the Administrator, annual report containing the information in paragraphs (a)(10)(vi)(A) through (a)(10)(vi)(C) of this section.
(40 CFR 63.7540(a)(10)(vi))

i. The concentrations of CO in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured before and after the tune-up of the boiler.
(40 CFR 63.7540(a)(10)(vi)(A))

ii. A description of any corrective actions taken as a part of the tune-up of the boiler. (40 CFR 63.7540(a)(10)(vi)(B))

iii. The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler if the unit was physically and legally capable of using more than one type

of fuel. (Units sharing a fuel meter may estimate the fuel use by each unit. (40 CFR 63.7540(a)(10)(vi)(C))

d. **TAC**

i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS, analysis of emissions, and/or modeling results.

ii. If a new TAC is introduced or the content of a TAC in a raw material increases, the owner or operator shall re-evaluate the environmental acceptability and document the environmentally acceptable emissions.

S3. **Reporting** (Regulation 2.03, section 5.1)

The owner or operator shall maintain the required records for a minimum of 5 years and make the records readily available to the District upon request.

a. **PM/PM_{10}/$PM_{2.5}$**

There are no reporting requirements for this equipment. (See Comment 2)

b. **Opacity**

There are no reporting requirements for this equipment. (See Comment 3)

c. **SO_2**

There are no reporting requirements for this equipment. (See Comment 2 and 4)

d. **NO**x

i. Emission Unit ID number, Stack ID number, and/or Emission Point ID number;
ii. The beginning and ending date of the reporting period;
iii. Identification of all periods of exceedance of the emission limit in Specific Condition S1.d.i.;
iv. Information recorded under 40 CFR 60.49b(g); and
v. Description of any corrective action taken for each exceedance.
vi. The owner or operator is required to submit excess emission reports for any excess emissions that occurred during the reporting period. (40 CFR 60.49b(h)(2))

e. **HAP**

i. For boilers that are subject only to a requirement to conduct an annual or biennial tune-up according to §63.7540(a)(10) or (a)(11), respectively, and not subject to emission limits or operating limits, you may submit only an

annual or biennial compliance report as specified in paragraphs (b)(1) through (5), instead of a semi-annual compliance report. (40 CFR 63.7550(b))

ii. The compliance report must contain the information required below:(40 CFR 63.7550(c))

1) Company name and address. (40 CFR 63.7550(c)(1)
2) Statement by a responsible official, with the official's name, title, and signature, certifying the truth, accuracy and completeness of the report. (40 CFR 63.7550(c)(2))
3) Date of report and beginning and ending dates of the reporting period. (40 CFR 63.7550(c)(3))
4) Include the date of the most recent tune-up for each unit subject to only the requirement to conduct an annual or biennial tune-up according to §63.7540(a)(10) or (a)(11), respectively. Include the date of the most recent burner inspection if it was not done annually or biennially and was delayed until the next scheduled unit shutdown. (40 CFR 63.7550(c)(12))

f. **TAC**

i. The owner or operator shall report any conditions that were inconsistent with those conditions analyzed in the most recent Environmental Acceptability Demonstration or a Negative Declaration stating that operations were within the conditions analyzed. This includes, but is not limited to, control device upset conditions.

ii. For any conditions outside the analysis, the owner or operator shall re-analyze to determine whether these conditions comply with the STAR program. Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to re-analyze.
(Regulation 5.21 sections 4.22 – 4.24)

iii. The owner or operator shall submit the re-evaluated EA demonstration to the District within 6 months of a change of a raw material as described in S2.d.ii.

Comments

1. The replacement of 3 large existing coal boiler to the current 2 gas boilers, along with the Board Order dated of November 8, 1999 constitute the NO_X RACT plan, per Regulation 6.42, section 4.3 for this source. (See NO_X RACT)

2. A one-time PM and SO_2 compliance demonstration was performed using AP-42 emission factors. Regulation 7.06 emission standards cannot be exceeded when combusting natural

gas. Therefore, there are no additional monitoring, recordkeeping, or reporting requirements with respect to PM and SO_2 for natural gas.

3. The District has determined that using a natural gas fired boiler will inherently meet the 20% opacity standard. Therefore, the company is not required to perform periodic monitoring to demonstrate compliance with the opacity standard.

4. The potential SO_2 emissions combusting #2 fuel oil were 854.7 tpy. The company agreed to an emission limit of 594.4 tpy for SO_2. Netting was performed for SO_2 and it "netted out". (Construction Permit 657-94-C) However, the source is no longer permitted to burn fuel oil. The SO_2 PTE is now 0.92 tons/year.

5. The 0.2 lb/MMBtu limit for NO_x equates to 304.8 tpy and the potential NO_x emissions combusting natural gas are 203.2 tpy. Netting was performed for NO_x and it "netted out". The construction permit was revised to lower the NO_x from 242.5 tpy to the potential NO_x emissions of 203.2 tpy. (Construction Permit 657-94-C)

6. Netting was performed for CO and it "netted out". This construction permit was revised to remove the CO emission limit of 97 tpy. (Construction Permit 657-94-C)

7. This construction permit was revised to remove the PM emission limit of 58.3 tpy, because it was higher than the potential PM emissions combusting #2 fuel oil of 21.7 tpy. The potential PM_{10} emissions combusting #2 fuel oil were 10.9 tpy. (Construction Permit 657-94-C) The source is no longer permitted to burn fuel oil.

8. All criteria pollutants potential emissions were less than the significant level for PSD/Nonattainment NSR except for SO_2, NO_x, and CO. (Construction Permit 657-94-C)

9. The TAC emissions from the combustion of natural gas are considered to be "de minimis emissions" by the District. This includes all of the emissions from a process or process equipment for which the only emissions are the products of combustion of natural gas, such as from a natural gas-fired boiler or turbine, but does not include the other emissions from a process or process equipment that are not the products of the combustion of natural gas. (Regulation 5.21, section 2.7)

10. At the time of this permit issuance, the requirements of 40 CFR Part 63 Subpart DDDDD apply. If Subpart DDDDD changes, any new requirements under the regulation will apply. Any requirements removed from Subpart DDDDD will be removed from the permit when the source applies for a permit modification.

11. This revision updates the standards and doesn't reflect any new physical changes at the source.